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FOREWORD: ON THE BORDERLANDS OF DERIVATIVES: ROCKET SCIENCE FOR THE NEXT MILLENNIUM

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Exchange trading in contracts on futures on foreign currencies began at the Chicago Mercantile Exchange in May 1972. That exchange's International Monetary Market ("IMM") began trading contracts on British, Canadian, German, French, Japanese, and Swiss currencies.[1] In October 1975, exchange trading began in futures contracts on the mortgage-backed certificates of the United States Government National Mortgage Association ("GNMA").[2] Exchange trading on the first of the interest rate instruments, United States Treasury Bond futures, began in 1977. Exchange trading on the first contract based upon a stock index, the Value Line, began in February 1982.[3] It would be a reasonable assertion that for the first twenty years of this exchange trading, the futures professionals in the industry were knowledgeable about "financial futures and options," "currency futures," "interest rate instruments," "stock index futures and options," and the like, while the general public did not know or understand much about this exotic trading until the series of scandals about "derivatives" broke into the major media channels in 1994 and 1995.

It may be too late now to impose any precision on the journalistic use of the term "derivative."[4] The term usually refers to one of three major markets: (1) exchange-traded contracts, a market characterized by regularity of terms and sufficient trading volume to sustain decent liquidity, and regulated by a government agency; (2) off-exchange products, such as interest-rate swaps, which are slowly attaining a degree of regularity of terms and are either not regulated or lightly regulated; and (3) off-exchange contracts without much regularity that are essentially ad-hoc deals and are not normally regulated. A recent at-

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1. *See* CHICAGO BOARD OF TRADE, COMMODITIES TRADING MANUAL 6, 257 (1989).

2. *See id.* at 6.

3. There followed trading on the Major Market Index in July 1984, on the Standard & Poor's 500 Index in April 1992, and on the NYSE Composite Index in May 1992. *See id.* at 275.

4. Even the Wall Street Journal, normally careful about reporting on financial matters, could call a contract between two United States corporations, essentially a side bet on which way a certain stock would move, as a "derivative."

tempt to define, with an accountant's precision, the term "Derivative Financial Instrument" is:

> [A] financial instrument that by its terms, at inception or upon the occurrence of a specified event, provides the holder (or writer) with the right (or obligation) to participate in some or all of the price changes of an underlying (that is, one or more referenced financial instruments, commodities, or other assets, or other specific items to which a rate, an index of prices, or another market indicator is applied) and, except as noted below, does not require that the holder or writer own or deliver the underlying.
>
> A contract that requires ownership or delivery of the underlying is a derivative financial instrument if (a) the underlying is another derivative, (b) a mechanism exists in the market (such as an organized exchange) to enter into a closing contract with only a net cash settlement, or (c) the contract is customarily settled with only a net cash payment based on changes in the price of the underlying.[5]

In surveying all the various financial services products that are called "derivatives" by their inventors or by the press, a number of variables emerge. The most important legal question is whether a product is (or is required to be) traded on a futures exchange under the supervision of the Commodities Futures Trading Commission ("CFTC").[6]

Whether the products are exchange-traded or off-exchange, purchasers or "users" of derivative products are judged by their motivation for participating in the market. Business school literature usually begins with the teaching that only if a firm's financial managers understand *why* their firm should be in the market (i.e., "what is the risk being hedged?") is that firm on solid ground. The teaching falls into several categories of managerial science. First is the analysis of risk.[7] Every legitimate derivative product has a legitimate risk which it is designed to control. Thus, the firm's board of directors analyzes the type and extent of the risk and then sets the trading parameters on those managers or traders who implement that policy. This rational policy is overstepped as soon as the firm's managers perceive their treasurer or comptroller's office as a profit center rather than a provider of a service.

5. COOPERS & LYBRAND, FASB'S PROPOSED STANDARD ON ACCOUNTING FOR DERIVATIVE AND SIMILAR FINANCIAL INSTRUMENTS AND FOR HEDGING ACTIVITIES 2 (1996) (on file with the author).

6. The CFTC was established by the Commodity Exchange Act, as periodically re-authorized. *See* Act of October 28, 1992, Pub. L. No. 102-546, 106 Stat. 3590, 7 USC §1 (codified as amended in scattered sections).

7. For a history of the emergence of the understanding of risk, see PETER L. BERNSTEIN, AGAINST THE GODS: THE REMARKABLE STORY OF RISK (1996).

After understanding the risk to be controlled, the second business issue is that of management supervision. Derivatives are complicated and the trading of them yet more complicated. The policy-setters may understand the risk to be controlled and may have set proper trading limits, but traders have a way of going their own (always rapid) way. As recent scandals have taught, the on-going supervision of the traders is difficult, if not downright unmanageable. Traders know more about trading, and their own trading, than their supervisors do. Moreover, supervisors have an incentive to keep a loose leash on traders who are being "profitable." In addition, the traders have a built-in incentive to take undue risks: if they win a gamble, they will be handsomely rewarded; if they lose, they will lose other people's money. Those who do not want to admit that built-in, structural conflicts of interest exist in these arrangements will invent or believe in the concept of the "rogue trader." Conflicting economic incentives could be designed which would create a tribe of rogue dentists.

The third business issue is the proper valuation of a derivative contract. When a firm has "bought" a derivative services product and now owns it as an asset, or is on one side of a contract with various contingencies, accounting practice will require that a dollar value be placed on that asset or liability. The new accounting standards give guidance;[8] the economics literature provides algorithms, models, and formulae which will stun the ordinary attorney senseless. The mathematics is of luxuriant complexity and follows the mathematical "revolution in finance and investing" since 1974.[9] Even when the narrower issue of valuation for accounting and financial disclosure purposes has been addressed, the broader economic questions of valuation for business strategy remain. In the best of worlds, the solution to the accounting issues would also solve the taxation questions. However, the proper taxation of the purchasing, holding, and sale of derivative financial products, especially those which are cross-border and may be subject to various taxation treaties, has become a new

8. *See* FINANCIAL ACCOUNTING STANDARDS BOARD, STATEMENT OF FINANCIAL ACCOUNTING STANDARDS NO. 105: DISCLOSURE OF INFORMATION ABOUT FINANCIAL INSTRUMENTS WITH OFF-BALANCE-SHEET RISK AND FINANCIAL INSTRUMENTS WITH CONCENTRATIONS OF CREDIT RISK (March 1990); FINANCIAL ACCOUNTING STANDARDS BOARD, STATEMENT OF FINANCIAL ACCOUNTING STANDARDS NO. 107, DISCLOSURES ABOUT FAIR VALUE OF FINANCIAL INSTRUMENTS (Dec. 1991). *FASB Statement 105* would be superseded and *Statement 107* would be amended by the June 20, 1996 *Proposed Standard on Accounting for Derivative and Similar Financial Instruments and for Hedging Activities. See* COOPERS & LYBRAND, *supra* note 5.

9. PETER L. BERNSTEIN, CAPITAL IDEAS: THE IMPROBABLE ORIGINS OF MODERN WALL STREET 2 (1992).

field of inquiry.[10] A sufficient understanding of the taxation issues may enable one to create a product with tax advantages for both sides, at least for several years until the Internal Revenue Service shuts down that "loophole."

Meanwhile, as more aspects of derivatives have become legal issues, the attorney's task becomes more important. What levels of supervision of derivative activities meet the minimum compliance required by regulatory agencies? Which persons under what circumstances have the authority to bind the firm to a derivatives contract? How much due diligence must sellers or brokers of a product do to ascertain the level of sophistication of their counterparty? Which new products are subject to which regulatory body? Could you create a product subject to none? Practitioners who can understand and coordinate all these variables attain the level of "rocket scientist,"[11] and it is said of more than one financial services law firm that the final test of passage from associate to partner is the design of a new financial services product.

During the "market break" of October 1987, some of the trades which went bad resulted in litigation in the Chicago federal courtroom of the Honorable Hubert L. Will, Northern District of Illinois, Eastern Division. When Judge Will finally disposed of the cases of *Spicer v. Chicago Board of Options Exchange*[12] and *Superior Beverage Co. v. Owens-Illinois, Inc.*,[13] he awarded small portions of excess available funds to several schools and scholars who would assist in the effort of preventing similar events in the future. One small grant was awarded to the Chicago-Kent College of Law to hold a conference on Derivative Financial Products. The conference was held on December 8, 1995, just days after Judge Will passed away. This Symposium issue is dedicated to his memory.

The conference made no attempt to "solve" the "derivatives problem," or even to summarize all its aspects. Instead, the four main speakers were asked to take a recent, special area of concern and explore it. The resulting presentations, revised for publication in this Symposium, illustrate the range of concerns with derivative products.

10. *See* ANDREA S. KRAMER, TAXATION OF SECURITIES, COMMODITIES, AND OPTIONS (1986); STEVEN D. CONLON & VINCENT M. AQUILINO, TAX-EXEMPT DERIVATIVES (1994).

11. BARRON'S DICTIONARY OF FINANCE AND INVESTMENT TERMS 381 (3d ed. 1991) contains this definition: "Rocket Scientist: investment firm creator of innovative securities."

12. 844 F. Supp. 1226 (N.D. Ill. 1993).

13. 827 F. Supp. 477 (N.D. Ill. 1993).

The additional article by Steven McGinity explores one of the banking law issues of derivative trading.

Chicago-Kent's Graduate Program in Financial Services Law was started in 1985 with the premise that it was no longer possible to be just a banking-law lawyer or just an insurance-law lawyer or just a securities-law lawyer. Those industries and those practice areas of law overlapped to the degree that clients demanded that their attorneys understand a broad range of financial services law. At the outset, we thought it might be sufficient to understand the United States markets and United States regulatory structures. The market break of October 1987 taught us otherwise: it was necessary to understand the global financial services marketplace and its legal regulation.

Understanding the many and constantly shifting legal regimes for the financial services industries is daunting in a world which is rapidly internationalizing many fields of human activity. While the internationalization of trade, unemployment, ecological impact, citizenship and family life, diseases, and pop culture each creates its own problems, the internationalization of banking, including payments systems, investing systems, and credit systems, brings out problems not yet fully comprehended. To explore one assumption rarely examined, consider that since 1945 the heretofore less developed countries ("LDCs") can join easily the sophisticated financial systems developed in "the West." It is said or hoped to be merely a matter of gaining skill in the techniques and obtaining the relevant technology. This overlooks, however, that the Western system was based on tacit cultural assumptions that are not shared by all countries. Early in the twentieth century, differences in utilizing capitalist tools were analyzed according to differences among Christians in Western societies.[14] Max Weber asked what were "the psychological conditions which made possible the development of capitalist civilization"?[15] It is not clear that all peoples and all nations have the same psychological preparations for participating in the global marketplace. There is both a question of "who can play?" and of "how to play?"

There seem to be three levels of activity that are partly three historical stages of participation and are also partly three stages of analysis and understanding. At the first level is international trade. Since

14. Two of the famous studies were: MAX WEBER, THE PROTESTANT ETHIC AND THE SPIRIT OF CAPITALISM (Talcott Parsons trans., 1930) (1926); R.H. TAWNEY, RELIGION AND THE RISE OF CAPITALISM (1926).

15. R.H. Tawney, *Foreword* to MAX WEBER, THE PROTESTANT ETHIC AND THE SPIRIT OF CAPITALISM 1(b) (Talcott Parsons trans. 1930) (1926).

the publication of Adam Smith's *An Inquiry Into the Nature and Causes of the Wealth of Nations* in 1776, the debate has been over the concepts of "free trade,"[16] mercantilism and protectionism. The subject has usually concerned the trade of goods. Trading requires some confidence in the performance of one's counterparty. A commentator on ancient Greece, de Selincourt, noted their fondness of stealth, wiliness, and deceit. He starts by quoting Cicero about Greek jury trials:

> "I grant," Cicero wrote, "their literary eminence, their skill in many arts, the wit and grace of their conversation, their intelligence, their eloquence, and anything else they may like to claim; but there is one thing the Greek nation has never cultivated—the sanctity of words spoken upon oath. Of this whole question of the importance of evidence, of its weight and authority, they have no notion whatsoever." Even in early Roman days commercial swindling was known proverbially as "Greek honesty" (*Graeca fide mercari*). This volatility of temperament and constitutional inability to honour an agreement was no doubt one reason why the Greeks never became a great commercial nation, as the Romans did; and it was certainly one reason for their political failure ever to unite or to make themselves into a nation at all. It is not easy to make a lasting settlement with habitual opportunists and liars.[17]

Similarly, in the modern world there is no broad consensus on what a contract is or its enforceability. One LDC lawyer is reported to have defined the signing of a contract as the high-water mark of the other side's gullibility.

The second stage is the macroeconomic development of a nation. In the United States, the classic debate occurred between Alexander Hamilton and Thomas Jefferson in George Washington's first cabinet. Hamilton wanted to obtain the funding to pay off the debts incurred by the Continental Congress by issuing new government paper and then retiring only two percent of it per year.[18] The government debt, "[b]eing semi-permanent and altogether secure, the bonds would circulate as if they were money, and the interest payments would also add to the nation's fluid capital."[19] Hamilton's later Report on Manufactures set out the blueprint for the economic development of the United States.[20]

16. For a summary of the debate over free trade, see DOUGLAS A. IRWIN, AGAINST THE TIDE: AN INTELLECTUAL HISTORY OF FREE TRADE (1996).

17. AUBREY DE SELINCOURT, THE WORLD OF HERODOTUS 198 (North Point Press 1982) (1962).

18. *See* JAMES THOMAS FLEXNER, WASHINGTON: THE INDISPENSABLE MAN 234 (1969).

19. *Id.*

20. *See id.* at 248.

The first two stages are now thought of as linked. The doctrine of "uneven development" divides the world into rich nations and poor nations.[21] This link underlies the political discussions about the NAFTA, in all three NAFTA countries. However, Paul Krugman has argued that "international trade is not much bigger now, as a share of world output, than it was a century ago."[22]

The third level of activity is the financing of the trade. While the financing of international trade in goods has been present since ancient times, the internationalization of all three branches of banking: the payments system, the credit system, and the investing system, has only expanded with a vengeance since 1945. While the older parts of these systems are encrusted with documentations, clarifications, and protections, many of the newer portions bring with them only the "my word is my bond" culture of their countries of origin. Reliance on oral or electronic "word" makes the "who can play?" question more important. Any operator of a gambling casino knows the treacherous terrain of allowing the players to gamble on credit. In the United States, both the SEC and the CFTC require the maintenance of margin, but these systems were originally designed for domestic United States players over whom the United States government, and its tax and criminal laws, exercised residual jurisdiction. Other exchanges in other legal regimes require different margin and have different jurisdictions. Meshing these together is not merely a legal question, but also a cultural and political one.[23]

Arthur Hahn, the Faculty Chair of Chicago-Kent's Graduate Program since its inception, shows how far we have yet to go in order to appreciate the structure and pitfalls of the global marketplace. When a United Kingdom bank like Barings becomes insolvent, attorneys worldwide are suddenly aware of issues not heretofore addressed: Whose bankruptcy regime applies? Where are the customer's funds? How can one tell what risks are present? More particularly, what if a bank depository of customer funds defaults? In such a case, what may be the liability of the broker? If a domestic broker is providing "seamless access" to the world's futures exchanges, is that broker a

21. *See* PAUL KRUGMAN, RETHINKING INTERNATIONAL TRADE 93-105 (1990).

22. PAUL KRUGMAN, POP INTERNATIONALISM 212 (1996).

23. A central issue for lesser developed countries is whether they can develop sophisticated financial systems which utilize derivatives by "modernizing" without "westernizing." See SAMUEL P. HUNTINGTON, THE CLASH OF CIVILIZATIONS AND THE REMAKING OF WORLD ORDER (1996) and its condensation in Samuel P. Huntington, *The West Unique, Not Universal*, 75 FOREIGN AFF. (No. 6) 28 (Nov./Dec. 1996). The issues are also described in *Cultural Explanations*, ECONOMIST, Nov. 9-15, 1996, at 23.

guarantor of the customer's funds? The demise of the Bank of Credit and Commerce International had forced national banking regulators to ask if it were possible for a bank to be operating on an international scope without being subject to effective regulation or supervision by any national banking authority and the crash of Barings Bank forced a similar set of questions about international bankruptcy regimes as applied to the international market in futures.[24]

Professor Jerry Markham examines the adequacy of the present regulatory supervision of the funds of customers held by a futures commission merchant ("FCM"). The CFTC requires FCMs to maintain a minimum amount of net capital. That net capital requirement may not adequately protect users from the market risks of trading in derivative products. Paul Uhlenhop agrees that the search should continue for a more risk-based net capital system.

Alton Harris provides a detailed examination of two recent[25] consent orders of the CFTC in order to illuminate the problems the CFTC has had in defining its jurisdiction. He argues that the CFTC has used a poorly-drafted regulatory statute to extend its jurisdiction over the over-the-counter markets in a manner which provides no clear boundaries.

Alison Gregory groups the issues which have developed in United States derivative markets into "product-related issues" and "non-product-related issues." The product-related issues center around the "what is it?" question for each financial product: is it a future, a security, or both? This "what is it?" question then is inexorably intertwined with the questions of where it may be traded? and which regulatory agency has primary jurisdiction over it? Her paper concentrates on one of the non-product-related issues: the rules governing the relationships between participants in the markets. Although various regulators have entered this arena, Gregory emphasizes the work product of various industry associations, *The Principles and Practices for Wholesale Financial Market Transactions* which was released on August 17, 1995, and are intended to provide guidance for conduct in wholesale transactions in the over-the-counter financial markets. Gregory analyzes their application to privately-negotiated, bilateral swap agreements.

24. *See* RAJ K. BHALA, FOREIGN BANK REGULATION AFTER BCCI (1994).
25. Orders against BT Securities Corporation, in December 1994 and against MG Refining and Marketing, Inc., in July 1995.

Steven McGinity looks at the changes in the banking industry since 1975 and notes that the "business of banking" has been changing at the same time as the markets in financial derivatives have exploded. Thus, at the time that banks' traditional borrowing and lending activities have declined and forced banks to look for newer ways to participate in the capital markets, derivative products have seemed a promising new area of activity. Of course banks, like other financial services firms, can and do utilize derivative products in order to hedge their own financial risks. They thus join other major corporations as end-users of these products. In addition, banks have both expertise in financial markets and an understanding of their traditional role as intermediaries. It seems natural for banks to offer the brokerage of and advisory services for derivative products.

As banks become more involved in derivatives transactions, both as end-users and as intermediaries, bank regulators concerned with the safety and soundness of banks will develop rules governing these activities. Concentrating on national banks, McGinity examines statutes, regulations, orders, and interpretive letters which concern their derivative-related activities.

In one of the early courses in Chicago-Kent's graduate program in financial services law, a young attorney expressed dismay at the necessity of mastering the business and the regulatory law of all the different industries: banking, investment banking, securities, mutual funds, brokerage, futures, insurance, international markets, etc. The instructor, Arthur Hahn, was blunt: "These are your tools. You don't come to work without your tools." If those basic tools are Rocket Science 101, 102, 103, etc., then the regulation of the international markets in derivatives is Rocket Science 201, 202, 203, etc. The *Chicago-Kent Law Review* is grateful to these authors for helping explore some issues on the frontiers and borderlands of this expanding industry.